

I Claim:

1. A guide tube for guiding an instrumentation lance into an interior of a pressure vessel, the guide tube comprising:

a lower tube part;

an upper tube part for configuration in the interior of the pressure vessel; and

a separator for particles;

said separator configured in said upper tube part.

2. The guide tube according to claim 1, wherein:

said separator has a separation chamber with a chamber base;

said separation chamber has a first flow connection for said lower tube part;

said first flow connection has an outlet opening configured in said separation chamber; and

said outlet opening is located at a distance from said chamber base.

3. The guide tube according to claim 2, further comprising:

a chamber cover closing said separation chamber;

said separation chamber having a second flow connection for connecting to the interior of the pressure vessel.

4. The guide tube according to claim 3, wherein:

said separation chamber has a lower region; and

said second flow connection has an inlet opening configured in said lower region of said separation chamber.

5. The guide tube according to claim 4, wherein:

said first flow connection is formed as a tube;

said second flow connection is formed as a tube;

said inlet opening of said second flow connection is configured in said separation chamber; and

said inlet opening of said second flow connection is configured underneath said outlet opening of said first flow connection.

6. The guide tube according to claim 3, wherein:

said upper tube part has a tube inner wall; and

said chamber base is sealed with said tube inner wall of said upper tube part.

7. The guide tube according to claim 3, wherein:

said upper tube part has a tube inner wall; and

said chamber cover is sealed with said tube inner wall of said upper tube part.

8. The guide tube according to claim 1, in combination with the instrumentation lance, wherein:

the instrumentation lance has an interior; and

said separator is configured in the interior of the instrumentation lance.

9. The guide tube according to claim 1, in combination with a reactor pressure vessel for a nuclear power station, wherein the guide tube extends into the nuclear power station.

10. A method for preventing an accumulation of particles outside of a pressure vessel in a guide tube, the method which comprises:

providing a separator in an upper tube part of the guide tube;

configuring the upper tube part of the guide tube within the pressure vessel;

guiding an instrumentation lance into the pressure vessel with the guide tube; and

using the separator to prevent particles from traveling from the upper tube part of the guide tube to other parts of the tube guide.

11. The method according to claim 10, which further comprises:

providing the separator with a separation chamber having an outlet opening configured above an inlet opening; and

configuring the separation chamber for operating such that, when water loaded with particles enters the inlet opening of the separation chamber, unloaded water emerges from the outlet

opening of the separation chamber into a lower tube part of the guide tube.

12. The method according to claim 10, which further comprises providing the separator with a separation chamber operating such that, when unloaded water flows out of a lower tube part of the guide tube into the separation chamber of the separator, water loaded with particles flows out of the separation chamber via a second flow connection into the pressure vessel.